

CLAIMS

What is claimed is:

- Subj 1*
- Subj 2*
- Subj 3*
- Subj 4*
- Subj 5*
- Subj 6*
- Subj 7*
- Subj 8*
- Subj 9*
- Subj 10*
- Subj 11*
- Subj 12*
- Subj 13*
- Subj 14*
- Subj 15*
- Subj 16*
- Subj 17*
- Subj 18*
- Subj 19*
- Subj 20*
- Subj 21*
- 1 An OFDM signal frame sync signal generator,
5 comprising:
a bandpass filter adapted to remove a significant portion of a
signal corresponding to at least one digital channel from a received OFDM
signal; and
10 an OFDM frame synchronizing correlator adapted to
generate a frame sync signal based on a detected correlation of a
cyclically extended portion of a data frame in said received OFDM signal
after processing by said bandpass filter.
2. The OFDM signal frame sync signal generator according
15 to claim 1, wherein:
said significant portion of said at least one digital channel is
a portion in a frequency domain farthest from a center frequency of an
analog channel contained in said received OFDM signal.
3. The OFDM signal frame sync signal generator according
20 to claim 1, wherein:
said bandpass filter is adapted to significantly remove a
significant portion of each of two digital channels from said received
OFDM signal.
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4. The OFDM signal frame sync signal generator according
to claim 3, wherein:
said significant portion of said two digital channels are
respective portions in a frequency domain farthest from a center
30 frequency of an analog channel contained in said received OFDM signal.

5. The OFDM signal frame sync signal generator according
to claim 1, wherein:

said bandpass filter is a digital bandpass filter.

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6. The OFDM signal frame sync signal generator according
to claim 1, wherein:

said OFDM frame synchronizing correlator generates said
frame sync signal based on an integrated detection of respectively
10 correlated cyclically extended portions of a plurality of data frames.

7. A method of detecting a timing of a data frame in a
received OFDM signal, comprising:

filtering out a significant portion of a signal corresponding to
15 at least one digital channel from said received OFDM signal to provide a
bandpass filtered OFDM signal;

correlating a cyclically extended portion of a data frame in
said bandpass filtered OFDM signal; and

20 generating a frame sync signal based on a correlation of
~~said cyclically extended portion of said data frame.~~

8. The method of detecting a timing of a data frame in a
received OFDM signal according to claim 7, wherein said filtering
comprises:

25 digitally filtering.

9. The method of detecting a timing of a data frame in a received OFDM signal according to claim 7, wherein:

 said correlating correlates respective cyclically extended portions of a plurality of data frames in said bandpass filtered OFDM
5 signal.

10. Apparatus for detecting a timing of a data frame in a received OFDM signal, comprising:

 means for filtering out a significant portion of a signal
10 corresponding to at least one digital channel from said received OFDM signal to provide a bandpass filtered OFDM signal;
 means for correlating a cyclically extended portion of a data frame in said bandpass filtered OFDM signal; and
 means for generating a frame sync signal based on a
15 correlation of said cyclically extended portion of said data frame.

11. The apparatus for detecting a timing of a data frame in a received OFDM signal according to claim 10, wherein said means for filtering comprises:

20 means for digitally filtering said received OFDM signal.

12. The apparatus for detecting a timing of a data frame in a received OFDM signal according to claim 10, wherein:

 said means for correlating correlates respective cyclically
25 extended portions of a plurality of data frames in said bandpass filtered
 OFDM signal.